

SEDUM GYPSOPHILUM (CRASSULACEAE),
A NEW SPECIES FROM NUEVO LEON, MEXICO

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Recent exploration of the numerous and extensive gypsum outcrops about Galeana, Nuevo Leon, Mexico has revealed the following gypsophile belonging to the genus Sedum. After describing the taxon as specifically distinct, I found that this had received an earlier name at the subspecific level (ssp. desertorum) by the late R. T. Clausen (1978). He included this under the widespread Sedum calcicola, but nonetheless, making fairly detailed comparisons with yet two other populations of S. calcicola ssp. calcicola, he concluded that the ssp. desertorum was from a "peculiar population" with a number of distinctive characteristics but on the whole seemed closer to S. calcicola than to yet other species of Sedum. His Table 2 shows that the ssp. desertorum differs from ssp. calcicola in possessing a smaller height; smooth twigs (as opposed to papillose); shorter, narrower, leaves; longer petals with less basal cohesion; yellow nectaries (versus orange); and echinate seeds (as opposed to papillose). He fails to mention the sparsely branched simple inflorescence of the ssp. desertorum, which readily distinguishes it from the usually more elaborate cymes of ssp. calcicola.

In any case, I have opted to recognize the ssp. desertorum at the specific level, calling it Sedum gypsophilum since it appears to be, as Sedums go, specifically distinct, restricted to gypsum soils, having now been collected at 3 separate sites on such substrates and does not, so far as known, occur adjacent to or intergrade with S. calcicola. Further, the subspecific epithet suggests a desert habitat when, in fact, the several sites concerned are in oak-pine forests at 2200 meters or more. In short, Sedum calcicola and S. gypsophilum appear to look and act like "good" species, albeit closely related.

SEDUM GYPSOPHILUM B. L. Turner, sp. nov.

Sedum calcicola accedens sed inflorescentiis sparse ramosis, floribus amplioribus, caulibus laevibus, et seminibus echinatis.

Seemingly perennial herbs to 30 cm high. Stems erect, slender, somewhat flexuous, suffrutescent, glabrous, branched from the base. Leaves alternate, glabrous, ovate to ovate lanceolate, 0.5-1.2 mm long, 1-3 mm wide, 1-2 times wider than thick, acute at the apex. Inflorescence mostly of 5-7 flowers in simple cymes of 2-(3) terminal branches, the latter 2-3 cm long. Sepals narrowly ovate, 4-5 mm long, glabrous, acute. Petals ca 10 mm long, 2-3 mm wide, spreading, white with greenish, narrowly acute, apices.

Stamens 10. Carpels erect, 5-7 mm long, glabrous, the styles ca 2.5 mm long, somewhat diverging, more so in fruit.

TYPE: NEUVO LEON: 3.2 mi S of Galeana (ca $24^{\circ}47' \times 100^{\circ}03'$). Gypsum flat in open pine woodland along dry arroyo. 10 Oct 1985, B. L. Turner, T. Ayers & R. Scott 15557 (holotype TEX; isotype UMEX).

Additional collections examined: MEXICO, NUEVO LEON: Municipality Galeana, El Sauce, 2440 m, hillside, 5 Nov 1980, G. B. Hinton et al. 18076 (TEX); 6 km N La Escondida ($24^{\circ}09' \times 99^{\circ}01'$) 25 Aug 1977, R. T. Clausen 772,031 (holotype of Sedum calcicola ssp. desertorum R. T. Clausen, CU!).

The Clausen collection, cited above, notes the plant to occur "In caliche on south slope of hill of gypsum, Cerrito Blanco". This is a confusing statement since caliche, by the usual definition, is a local evaporite of calcium carbonate (CaCO_3). Probably the collection concerned was obtained from an anhydrous form of gypsum (CaSO_4 , or "rock gypsum"), which occurs with the hydrous or soft form of gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$). The semi-barren, white hills in this region are largely massive depositional substrates of gypsum, most of which house an impressive array of endemics (Turner, 1985; etc.).

To my knowledge this is the only gypsophilic species of Sedum recorded for continental North America, although S. gypsicolum Boiss. & Reut. is recorded for Hispaniola, presumably also occurring on gypsum outcrops of that island. Several plants of S. gypsophilum were observed at the type locality, all stiffly erect and without basal rosettes or leafy stolons. It was not observed elsewhere adjacent to such habitats in this region.

Finally, it should be recorded that Clausen apparently obtained seed or reproductive materials from the type locality of ssp. desertorum, growing and describing the actual holotype from this material (K. Nixon, pers. comm.). His type, while grown in potting soil, is remarkably similar to the field-collected materials cited above.

LITERATURE CITED

- Clausen, R. T. 1978. Sedum-seven Mexican perennial species. Bull. Torr. Bot. Club 105: 214-233.
- Turner, B. L. 1985. Ageratina gypsophila (Asteraceae-Eupatorieae) a new species from Neuvo Leon, Mexico. Phytologia 57: 130-132.